

II. A BASIC CONCEPTS

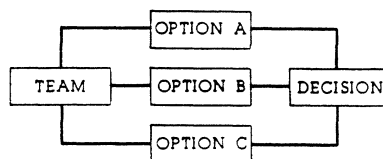
The facility development process is easier to understand and manage if you keep a few basic concepts in mind. These concepts define the underlying framework of the process. They also provide a base to return to whenever you get mired down in the numerous details of developing a complicated correctional facility.

PUTTING VALUE MANAGEMENT TO WORK

This Handbook will help you ask "why?" when your planner, architect, construction manager, sheriff, chief probation officer or other parties propose a particular solution to the myriad issues that need to be resolved throughout the planning, design and construction processes. Your consultants should help you examine problems and identify alternative solutions, their related costs and their impact on operations. Your participation in the decision is imperative. It's your project, and your consultants may not fully understand all of the operational ramifications of each decision. **You, not the consultants, will have to live with the way the facility operates and what it costs you to run it.**

The value management system breaks a project down by function and by the components of each function, and helps you identify and compare alternative materials, spaces, equipment and operations that will have a significant impact on the initial and long-term costs of your new facility. Analyzing your project in this way can alert you to anything that simply adds cost without enhancing the function or operation of the space, so you can use your resources in the most effective manner.

VALUE MANAGEMENT



Value management is the management process advocated and practiced in this Handbook. This process will help you allocate finite dollar resources to their best use for your county's project. You use this management approach to identify all project components and their associated costs and to track those components and costs from the beginning of the project until the day you move in.

Value management defines what is valuable to the players involved and what elements are needed for the project. Goals are established for the project team (sheriff, chief probation officer, county executive, planners, architects, engineers, construction managers), so the members can plan, design and build the project by selecting options

developed to achieve those goals and presenting these options to management for decisions.

Value Engineering

Value engineering, a part of this management system, is the technique which forces you to identify and evaluate your options during the process, so you can arrive at the best solution to a problem. Contrary to its name, value engineering is not a process only your engineers practice. Value engineering applies to all aspects of developing a project from early planning through construction.

To make value management work, the team players should work toward a common goal by identifying decisions to be made, such as facility location, and then analyzing various options for solutions - whether site selection, number of beds, or how many coats of paint to use. The discovery and exploration of these options is value engineering.

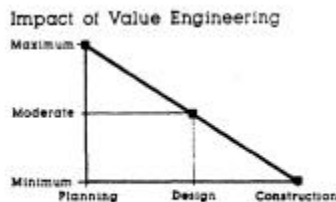
Project Budget



The **total project budget** includes all the cost components of the project, as follows:

- Site acquisition/easements
- Off-site improvements
- Utility connection fees
- Site development costs
- Testing and inspection services
- Construction costs
- Equipment and furnishings
- Professional services fees
- Permit fees
- Management costs

Cost Control



Cost control is the tool in this system which tracks costs once they are fixed, based on value engineering decisions. Cost control allows management decisions to be based on particular items relative to the overall first cost of the project, user needs, and life-cycle costs. If the project team finds during planning, design or construction that costs can or need to be adjusted, the team can adjust them to achieve the desired result. But the bottom line must remain constant unless the county chooses to seek additional funding.

Without a cost control process (described in detail throughout Section III) established at the beginning of the project, decisions are made without knowing their ultimate Impact on your goals. In other words, without cost control, you don't know what option meets the need at the least

cost over the life of the facility. **Major cost decisions are made early in the project!** Yet component costs can be altered later as long as the budget stays balanced.

Schedule Control

Add **schedule control** to value engineering and cost control, and you have value management. Controlling your project schedule is directly related to controlling your project cost. Failure to develop a thorough schedule from the outset almost always results in lost time because of a step forgotten or taken out of sequence. Time lost due to misscheduled activities can cost money in three ways: interest, inflation and temporary fixes because of delayed occupancy.

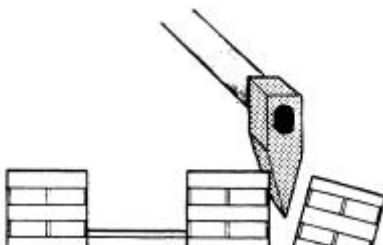
Interest. The longer a project goes on, the more you're bound to pay in interest.

Inflation. Lost time at one point in a project often results in attempts to make up that time later by accelerating design or construction schedules. Asking architects or contractors to accelerate their schedules inflates the price you'll have to pay.

Temporary Fixes. Accelerated design schedules can cost more money (if not properly managed) because of the increased likelihood of coordination mistakes. Similarly, accelerated construction schedules allow little time to solve problems and negotiate changes in a cost-effective manner.

It is nearly impossible to hire a cost analyst or other expert who can definitively estimate these hidden costs. An accelerated design schedule can cost 10 percent more at bid time because of reduced time for value engineering and coordination. An accelerated construction schedule can cost from 10 to 20 percent more, depending on conditions. For instance, a slip in your schedule which forces you to start construction in winter instead of spring has a cost impact. The only way to minimize the cost impact of schedule delays is to maintain a detailed project schedule and to use it to make decisions and plan the project. You face radical cost cutting if you don't apply value management techniques.

Cost Cutting



Cost cutting at the end means you're forced to settle for something less than originally intended. This is the least desirable facet of cost control, but unfortunately all too many projects face this final option when it's too late to take advantage of options available earlier. Cost cutting

generally occurs late in a project when it becomes obvious that the original budget will not pay for the facility as designed. If your project is managed properly, cost cutting should not be needed or at least will be minimal.

When it's too late, however, to return to initial planning decisions, the cost cutting ax hacks away parts of the building, either whole housing units (very painful) or little pieces. This process results in a facility which may never function as intended. The project may be delayed for years as the drawings are changed and fingers are pointed. Meanwhile, your project dollars drop in value daily. This painful method of cost control can be avoided if you start early with value management.

VALUE MANAGEMENT

Example: Planning Phase

For example, a county needing a second detention facility has several alternatives for providing food for its inmates. These options include:

Building a stand-alone kitchen for the new facility.

Using the existing kitchen, either as is or with modifications/additions, for both facilities.

Construction a kitchen that will serve both the juvenile and adult facility.

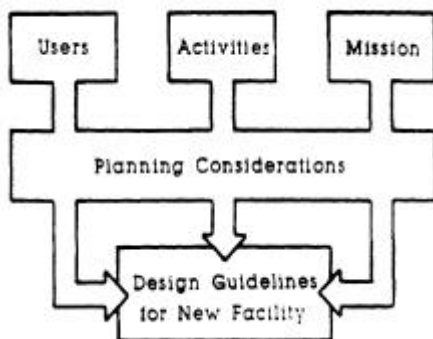
Constructing a kitchen in the new detention facility that would serve both new and old facilities.

Building a kitchen in the new detention facility that would serve both new and old facilities, plus additional beds that are to be added to the system later.

Contracting with a private vendor for food services.

In its decision-making, the county needs to evaluate the initial costs (construction, vehicle(s), equipment) and operational costs (staffing, transportation) of each of these options. Other attributes to be compared include the ability to provide nutritional meals at their appropriate temperatures, availability and locations of trustee cooks, and compatibility with the county's philosophies and goals.

If the county determines that centralizing food storage and preparation will be the least costly in the long run, but that food quality will be relatively poor, it should explore variations of that alternative - things that would keep cost

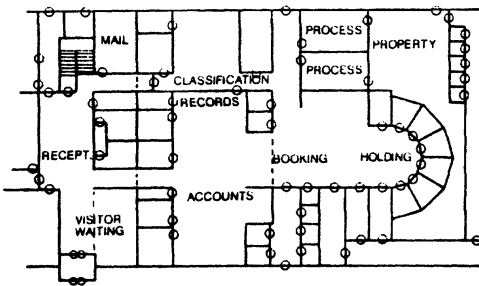


down but improve food quality, such as better food carts or a cook-chill system.

If variations fail to solve the problems or create new ones, perhaps independent kitchens would work better. Their additional life-cycle costs may be justified and manageable.

Granted, analyzing major issues like food services is not easy if a county truly considers all costs and attributes. Your county may wish to employ a food service consultant. But once your county has collected and analyzed all of the data from a value management perspective, an informed decision can be made. At the completion of the initial planning stage, when the county has determined what it needs in the new facility and how these needs can be met within its budget constraints, another set of decisions must be made.

Example: Design Phase



One of the first such decisions is: What material is the building to be constructed of? Frequently in detention design, the obvious conclusion reached is that the inmate housing portion of the facility must be constructed of high security materials such as concrete or masonry. Then, without looking at alternatives for other areas in the facility, the county assumes that it should construct the entire facility of the same expensive materials. If this happens, you may pay 10 to 20 percent more for your administration space than is necessary. The extra cost accrues in high security doors, locks, light fixtures, etc. When using a thorough value engineering system, these kinds of assumptions would not just happen.

The security and durability needs of each space should be assessed before a decision on the construction system is made. Usually there are areas such as administration, maintenance and support services which may not require such "hard" construction. These areas should be identified and perhaps grouped together so an appropriate construction system, from a cost and needs perspective, can be selected. Money saved here can be used to obtain other project needs and wants.

Example: Construction Phase



The project is finally under construction, you're on budget and things are progressing. You visit the project one day with your boss and notice that the window detail is not quite what you wanted. Contraband could be concealed in a small crack. You discuss the problem with your architect and construction manager and come up with a solution. You're told it will cost \$200. Two hundred dollars sounds

insignificant in a multimillion dollar budget so you tell them to go ahead and change the detail. You did not understand that the \$200 covered only one window.

Two weeks later you get a phone call from your boss. He's obviously hot. He yells, "How could you approve a quarter million dollar change order without letting me know'?!". You wonder what in the world he is talking about until he rattles off figures like: \$200 per cell window, 1,000 cell windows, plus contractors mark-up.

If you had stopped to explore the full impact of that simple \$200 change or if a step in the process had forced you to consider the full impact of your decision, you would not have had to suffer through that phone call. Chances are the change order never would be implemented because of the check and balance process. Unfortunately, the cost of such decisions on design detail often is not questioned.

Now You Try It

You can take this decision-making to many levels. Value engineering involves going from the general to the very specific. Use the following tests to consider your own assumptions and then develop similar tests to ensure that your County's decisions are sound and won't be regretted later.

To evaluate a laundry

As part of the functional and architectural programming process, a recommendation is made to build an 800-square-foot laundry to be staffed by one full-time county employee and two inmates for one eight-hour shift per day. The recommendation calls for 12 washers, 12 dryers and dry cleaning equipment. The jail is not required to provide inmates with work.

- | | |
|---|--|
| <p>1. Can a laundry at the new facility be eliminated without impairing the function (providing clean clothes, sheets, towels, etc.)?</p> <p><input type="button" value="Yes"/> <input type="button" value="No"/> <input type="button" value="Maybe"/></p> | <p>5. Could someone else (a vendor) meet the same needs for less?</p> <p><input type="button" value="Yes"/> <input type="button" value="No"/> <input type="button" value="Maybe"/></p> |
| <p>2. Can any parts at the process be eliminated such as dry cleaning?</p> <p><input type="button" value="Yes"/> <input type="button" value="No"/> <input type="button" value="Maybe"/></p> | <p>6. Could clothes and linens be washed less frequently (volume driving space requirements) and still comply with standards?</p> <p><input type="button" value="Yes"/> <input type="button" value="No"/> <input type="button" value="Maybe"/></p> |
| <p>3. Does the recommendation call for more space than is necessary for the equipment, people and processes?</p> <p><input type="button" value="Yes"/> <input type="button" value="No"/> <input type="button" value="Maybe"/></p> | <p>7. Could security and the supervision of the two inmates be handled more cost-effectively other than by a full-time county employee?</p> <p><input type="button" value="Yes"/> <input type="button" value="No"/> <input type="button" value="Maybe"/></p> |
| <p>4. Are there more cost-effective methods of meeting the same needs, such as reducing the number of machines and space and double-shifting, or sending the laundry to the existing jail's laundry?</p> <p><input type="button" value="Yes"/> <input type="button" value="No"/> <input type="button" value="Maybe"/></p> | <p>8. As a taxpayer, would you build the 800-square foot laundry as opposed to pursuing your other options?</p> <p><input type="button" value="Yes"/> <input type="button" value="No"/> <input type="button" value="Maybe"/></p> |

If any questions are answered "YES" or "MAYBE", alternatives should be explored to ensure attainment of best value.

To evaluate a cell/room door

It has been recommended to the management team that the best cell/room door operator for the facility is a fully automatic system of sliding doors. Door, frame and operating mechanism total roughly \$3,000 each.

- | | |
|---|--|
| <p>1. Can the door have fewer automatic features without impairing function (safety, security, operations, programs)?</p> <p><input type="button" value="Yes"/> <input type="button" value="No"/> <input type="button" value="Maybe"/></p> | <p>5. Would a standard, 'off-the-shelf' model accomplish the same desired functions or must it be modified to fit the requirements?</p> <p><input type="button" value="Yes"/> <input type="button" value="No"/> <input type="button" value="Maybe"/></p> |
| <p>2. If not, does this door do more than is necessary? (Generally these doors are used in the highest security level areas).</p> <p><input type="button" value="Yes"/> <input type="button" value="No"/> <input type="button" value="Maybe"/></p> | <p>6. Could the device be produced for less and still be an acceptable product?</p> <p><input type="button" value="Yes"/> <input type="button" value="No"/> <input type="button" value="Maybe"/></p> |
| <p>3. Can any function or part be eliminated without impairing the operation, such as limiting doors to electric locking only?</p> <p><input type="button" value="Yes"/> <input type="button" value="No"/> <input type="button" value="Maybe"/></p> | <p>7. Is the device produced by enough suppliers to ensure competitive bids?</p> <p><input type="button" value="Yes"/> <input type="button" value="No"/> <input type="button" value="Maybe"/></p> |
| <p>4. Is there a more cost-effective method of meeting the same needs? (For instance, would staffing have to be increased to supervise the handling of manual doors and how would that compare with the likely higher cost of maintaining a fully automatic door?)</p> <p><input type="button" value="Yes"/> <input type="button" value="No"/> <input type="button" value="Maybe"/></p> | <p>8. As a taxpayer, would you refuse to buy it because it costs too much?</p> <p><input type="button" value="Yes"/> <input type="button" value="No"/> <input type="button" value="Maybe"/></p> |

If any questions are answered 'YES' or 'MAYBE', alternatives should be explored to ensure attainment of best value.

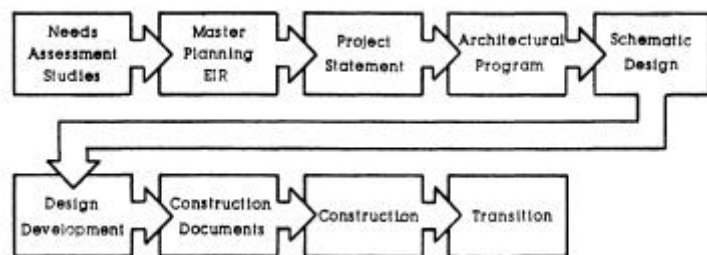
Before delving into a detailed discussion of the planning and construction process, you may want to get a more general picture of what to expect while pursuing your project. The following overview provides very brief descriptions of the steps in the facility development process, Section III presents more detailed discussions of each step.

Although the following sections of this Handbook are presented in a step-by-step chronological order, keep in mind that the process is very fluid in reality. Every project develops differently. Activities may happen in a different order or even simultaneously.

The Process Begins

The key to controlling costs during this fluid process is understanding which activities must occur for your project, knowing how much each will cost, and having a plan to achieve each activity. Remember, additional costs for design fees and lost time are common when a project team discovers a step in the process has been forgotten or left incomplete or when costs are not managed from the beginning. Oversights require redesign and/or rethinking of other decisions.

The facility development process begins when your county recognizes a need for additional cells or support space within the jail system. The process ends when this need has been met with new or renovated facilities. Between these two points, the following activities must take place.



Needs Assessment Studies



This first step involves defining what your county needs immediately and over the long term. Also included in this study is an analysis of your existing detention facilities, population projections and a general idea of how these needs tie into your existing system.